

## **Prevalence of intestinal parasite infections and associated clinical symptoms among patients with end-stage renal disease undergoing haemodialysis.**

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### **Abstract**

#### ***PURPOSE:***

Intestinal parasitic infections (IPIs) can result in high morbidity and mortality, particularly in immunocompromised patients. Infectious diseases are among the main causes of death in end-stage renal disease (ESRD) patients due to their impaired immune systems. The aim of this study was to determine the prevalence IPIs and their associated symptoms in ESRD patients.

#### ***METHODS:***

In this case-control study, the fecal samples of 78 ESRD patients undergoing hemodialysis and 140 controls without any kidney problems were analyzed for intestinal parasites using direct-smear, formol-ether and modified Ziehl-Neelsen staining techniques.

#### ***RESULTS:***

The difference in the prevalence of IPIs between ESRD patients (30.7 %) and the control group (10.7 %) was significant (OR = 3.7; 95 % CI = 1.8-7.61; P < 0.001). Blastocystis (14.1 %) and Cryptosporidium spp.(11.5 %) were the most common IPIs detected in ESRD patients, and the presence of Cryptosporidium spp. was significantly associated with diarrhea in ESRD patients (OR = 16; 95 % CI = 1.54-166.05; P < 0.05). Leukocytosis, diarrhea, weight loss, nausea/vomiting and bloating were also significantly higher in the hemodialysis group when compared with the control group.

#### ***CONCLUSION:***

The current study revealed a high prevalence of intestinal parasites and related clinical symptoms in ESRD patients undergoing hemodialysis. Since hemodialysis patients are immunocompromised and intestinal parasites can cause serious clinical complications, we suggest that stool examination for intestinal parasites, with an emphasis on detection of Cryptosporidium spp. and Blastocystis, should be incorporated into the routine clinical care for these patients. Measures for preventing the acquisition of IPIs are also recommended.

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